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EXHIBIT 1

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Summary

Objective:

- To evaluate, and compare, defect performance of four different brushes, under the same environment.

Tool used:

- 300MM Mirra Messa.

Results:

- BPTone 212XP material (3920-00307) had the best particle removal rate.

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Experimental Details For Tool Qualification

Tools

- S3 300mm Mirra-Mesa
 - Megasonics
 - Brush 1
 - Brush 2
 - SRD
- Metrology
 - KLA-Tencor
 - Oxide BKM recipe

Methodology

- Cycle 100 dummy wafers through the system daily
- Testfire 4 oxide defect wafers
- Defect Qualification is < 30 adders ($\Delta = \text{post} - \text{pre}$) at $0.13 \mu\text{m}$
- Cleaning Performance Metrics:
 - Delta = precount - postcount (typically used at customer site)
 - Map-to-map defect analysis not available

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Experimental Details for Brush Type Evaluation

Methodology

- Install Brushes and Run Brush Break-In twice
- Cycle 25 dummy wafers through system
- Testfire 4 oxide defect wafers for qualification
- Defect Qualification Is < 30 adders ($\Delta = \text{post} - \text{pre}$) at $0.13 \mu\text{m}$
- Testfire 5+ oxide defect wafers for Using BKM 1.1
- Cleaning Performance Metrics:
 - Delta = precount - postcount (typically used at customer site)
 - Map-to-map defect analysis not available

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Objective

Evaluate Four Different Brushes for Brush Module 2

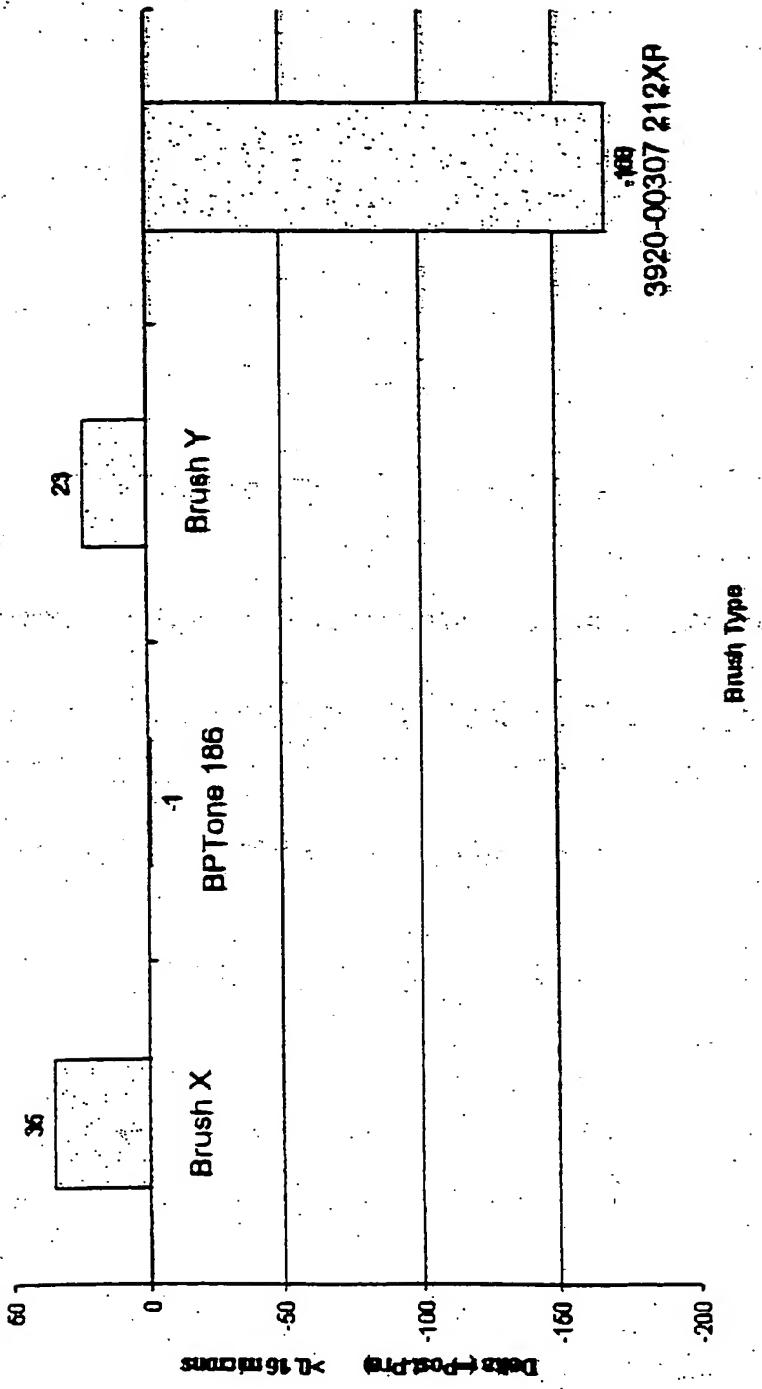
- Brush types

- Brush X
- Brush Y
- BPT-1 Type 186
- 3920-00307, BPT-1 Type 212

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Effect of Different Brush Types



BPT-1 Type 212 Brushes Has Best Defect Performance

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